CHAPTER 7

MAINTENANCE AND PRODUCTION CONTROL

This chapter is designed to assist senior personnel in preparing for a maintenance managers position. It is not all inclusive of a maintenance or production chiefs daily tasks, but it should help you to understand some of their required functions.

MAINTENANCE MANAGEMENT

LEARNING OBJECTIVE: Recognize the definitions of "maintenance" and "management."

Management is defined as "the efficient attainment of objectives" and maintenance is defined as "all actions taken to retain material in a serviceable condition or to restore it to serviceability." When combined, maintenance management can be defined as "the actions necessary to retain or restore material or equipment to a serviceable condition with a minimum expenditure of resources." It is the responsibility of every maintenance manager to manage resources in an efficient manner.

- Q1. Define the term "management."
- Q2. What is the definition of maintenance?
- Q3. Define the term "maintenance management."

MAINTENANCE CONTROL

LEARNING OBJECTIVE: Identify the responsibilities of Maintenance Control.

Maintenance control (M/C) is at the nucleus of the production divisions. It manages and coordinates the overall production effort to maintain squadron aircraft in a mission-capable condition. The general responsibilities of M/C include, among others, the following:

- Coordinates/monitors the maintenance department workload.
- Maintains liaison with the supporting activities and the local supply department to ensure that the squadron requirements are known and satisfied.
- Controls the daily workload, and assigns work priorities to the various division work center supervisors.

- Issues maintenance instructions (MIS), as required, to ensure adequate communication and control.
- Ensures that the full capability of the department is used in support of the department workload.
- Submits NALCOMIS or VIDS/MAF work requests to the supporting intermediate maintenance activity (IMA) for those functions beyond the capability or responsibility of the activity.
- Maintains technical directive (TD) control procedures for the department by initiating all TD compliance actions, ensures that required material is ordered, and schedules timely incorporation of technical directives.
- Reviews maintenance instructions and local maintenance requirements cards (MRCs) and ensures compliance.
- Conducts a monthly maintenance meeting and publishes a monthly maintenance plan.
- Attends the monthly maintenance meeting conducted by the supporting aircraft intermediate maintenance department/intermediate maintenance activity (AIMD/IMA).
- Establishes procedures for controlling and directing cannibalization.
- Ensures that aircraft undergo functional maintenance check flights (FCFs), as required.
- Maintains aircraft logs and associated equipment records (with the operations department), including weight and balance data and inventory logs.
- Reviews monthly Maintenance Data System (MDS) reports to ensure effective use of personnel, equipment, and facilities.
- Establishes procedures to monitor the Subsystem Capability and Impact Reporting (SCIR) system.
- Keeps the Equipment Master Roster (report number E-00) current to reflect those inventory and status changes that have occurred during the reporting period.

- Plans material requirements to support the department workload.
- Furnishes technical advice and information to the supporting supply department about the identity and quantities of supplies and spare parts required to support the department workload.
- Establishes and maintains a Tool Control Program (TCP).
- Reviews allowance lists and the Individual Material Readiness List (IMRL) for adequacy, and initiates action for revisions, as required.
- Ensures divisions assign qualified personnel for the completion of scheduled maintenance and inspections.
- Maintains close liaison with QA, particularly when maintenance changes major components. Maintenance control must inform QA when such changes occur.
- Validates the Not Mission Capable Supply/ Partial Mission Capable Supply (NMCS/PMCS) status listings each day.
 - Validates work center VIDS display boards.
- Keeps the AMO advised of the overall workload and material situation as it affects the department.
- Ensures compliance with the Oil Analysis Program.
- Ensures compliance with the Hydraulic Contamination Program.
- Establishes departmental maintenance procedures for all support equipment (SE) for which the activity has IMRL reporting responsibility, and ensures such maintenance conforms with the SE Planned Maintenance System (PMS) and the Metrology and Calibration (METCAL) program.
- Develops an understanding of the Naval Aviation Logistics Command Management Information System (NALCOMIS) concept and its application to management and automated data processing (ADP) requirements. Refer to the NALCOMIS User's Manual for specific details related to maintenance/material management.
- Provides pilots/aircrews with a record of aircraft discrepancies and corrective actions for the last 10 flights of the aircraft by maintaining the Aircraft Discrepancy Book (ADB). (Discussed later in this section and in chapter 1.)

- Q4. What work center manages and coordinates the overall production effort to maintain squadron aircraft in a mission-capable condition?
- Q5. What division controls the daily workload and assign work priorities to the various work center supervisors?
- Q6. What division is responsible for publishing a monthly maintenance plan?
- Q7. What division is responsible for ensuring that aircraft undergo functional maintenance check frights as required?
- Q8. What division maintains the Aircraft Discrepancy Book?

MAINTENANCE MEETINGS

LEARNING OBJECTIVE: Define the purpose of the daily maintenance meeting.

Without a doubt, the best tool for ensuring a smooth flow of information about maintenance between shifts and other supervisors is the daily maintenance meeting. The meeting allows all the supervisors within your department or division to brief the maintenance chief on the status of equipment, components, or aircraft that currently have ongoing work or are scheduled to have maintenance performed. It also allows maintenance control to coordinate time frames for sharing certain facilities, equipment, or electrical power requirements. In addition, these maintenance meetings may bring to the attention of the maintenance chief specific tasks that need items of material or equipment that may be difficult to obtain. It may also identify certain document numbers that require "hand massaging" by the supply chief.

The maintenance chief can use the information obtained at the maintenance meetings to "plan ahead," such as obtaining support equipment that another squadron has checked out or coordinating a time period that the corrosion branch needs to paint or even reassign aircraft to the flight schedule. This allows specific maintenance to be performed on specific aircraft.

Always remember that **nothing** happens to any aircraft without the maintenance chiefs approval. The maintenance chief releases the aircraft as "safe for flight." He/she **MUST** know what is happening on every aircraft at every moment.

Q9. What is the primary purpose of the daily maintenance meeting?

AIRCRAFT STATUS REPORTS

LEARNING OBJECTIVE: Recognize the purpose and reporting procedures of the Aircraft Material Readiness Report (AMRR).

Aircraft status reports are nothing more than a compilation of information on each aircraft assigned to your squadron and its current mission capability status.

Your command may construct such a report locally that provides the chain of command with consolidated information on all aircraft assigned to your organization. Also, COMNAVAIRLANT/COMNAVAIRPAC INSTRUCTION 5442.5D, Aircraft Material Readiness Reporting (AMRR), provides specific instructions on reporting procedures for certain commands and conditions. This report enables supporting commanders to assess current aircraft material condition and rapidly identify significant aircraft support deficiencies.

The content of this report includes information as follows:

- Number of aircraft assigned
- Number of aircraft in reporting status (IR)
- Number of aircraft full mission capable (FMC)
- Number of aircraft partial mission capable (PMC)
- Number of aircraft nonmission capable (NMC)
- Document numbers associated to NMC/PMC aircraft
- Flight hours flown since last report
- Sorties scheduled/sorties flown

These reports are normally due for transmission by unclassified immediate message no later than a given time every day. The information may vary, depending on type aircraft, command, and deployed condition; however, specific information can be obtained in CNAL/CNAPINST 5442.5D.

Q10. What instruction provides specific guidelines on procedures for reporting your squadrons readiness and material condition to supporting commanders?

AIRCRAFT DISCREPANCY BOOK (ADB)

LEARNING OBJECTIVE: Identify the purpose and guidelines for maintaining the aircraft discrepancy book (ADB).

Maintenance control maintains an ADB for each aircraft assigned. The ADB gives maintenance/aircrew personnel an accurate, comprehensive, and chronological record of flights and maintenance performed on a specific aircraft by bureau number (BUNO) for at least the last 10 flights. For phase and special inspections, only the control document representing all look phase actions needs to be displayed in the ADB. The ADB must reflect the status of all outstanding maintenance requirements, as shown on the maintenance control/work center VIDS boards. The ADB for each specific BUNO must be validated for completed and outstanding VIDS/MAFs before certifying the aircraft safe for flight.

NOTE: When a special inspection is completed, the control document VIDS/MAF copy 3 must be retained in the ADB for 10 flights, or until completion of the next like special inspection.

Q11. When a special inspection is completed, how long must copy 3 of the controlling document be retained in the ADB?

RELEASING AIRCRAFT FOR FLIGHT

LEARNING OBJECTIVE: Identify the purpose of the Aircraft Inspection and Acceptance Record.

One of the most critical aspects in naval aviation is the release of an aircraft that is safe for flight. It is the responsibility of the aircraft maintenance officer or his designated representative, usually the maintenance chief, to release the aircraft by signing the Aircraft Inspection and Acceptance Record (OPNAV 4790/141). This record indicates that the aircraft being released for flight has had all required maintenance completed safely and is safe to fly. Specifically, the person releasing the aircraft must, as a minimum, comply with the following requirements:

• Review the aircraft discrepancy book (ADB) to ensure all downing discrepancies are signed off, all flight safety quality assurance inspections are complete, and a valid daily/turnaround inspection is complete.

- Ensure fuel samples are taken as required by the applicable maintenance requirements cards (MRCs) or prior to the first flight of the day.
- Ensure the oil consumption has been reviewed for each engine/gearbox prior to every flight.
- Update the aircraft weight and balance and configuration for each flight.
- Review with the debarking pilot during hot seating operation any new discrepancies encountered during the previous flight to ensure flight safety for the next flight. Ensure the debarking pilot signs the Aircraft Inspection and Acceptance Record verifying that the aircraft is safe for flight.

The pilot in command of the aircraft is also required to review the ADB for aircraft discrepancies and corrective actions taken for at least the 10 previous flights. The pilot will sign block 11 of the Aircraft Inspection and Acceptance Record (fig. 7-1) assuming full responsibility for the safe operation of the aircraft and safety of the other individuals aboard.

Additional information on the release of aircraft safe for flight and the Aircraft Inspection and Acceptance Record can be obtained in OPNAVINST 4790.2.

- Q12. Who is responsible for releasing an aircraft as "safe for flight"?
- Q13. What is the title of OPNAV 4790/141?
- Q14. When an aircraft is released as safe for flight, if not specified otherwise, when must fuel samples be taken?

AIRCRAFT HISTORICAL FILES

LEARNING OBJECTIVE: Recognize the purpose and procedures for maintaining historical files.

Aircraft historical files are records ofmaintenance and inspections performed on each aircraft in the squadrons custody.

Procedures for maintaining these files vary slightly, depending on the administrative operating procedures for each squadron. Those operating under NALCOMIS have slightly different requirements than those operating with VIDS/MAFS. Both are discussed briefly; however, detailed information can be found in OPNAVINST 4790.2, Vol III.

NALCOMIS activities will store the current month and two preceding months of completed MAFs on the host computer in the electronic historical data format. Once the material is offloaded, the data must be retained for a minimum of 12 months or one complete inspection cycle, whichever is greater.

Historical file requirements for activities using paper VIDS/MAFS are as follows:

- Aircraft Inspection File. This file is maintained by bureau number(BUNO) and should be retained for one inspection cycle or 6 months, whichever is greater. Conditional inspection documents should be maintained in this file for 6 months from the date of completion.
- Aircraft General File. Maintained by BUNO in JCN sequence and grouped by month of

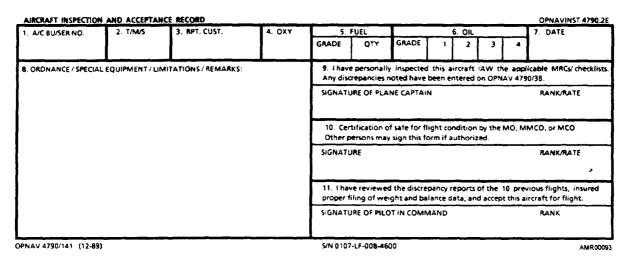


Figure 7-1.—Aircraft Inspection and Acceptance Record (OPNAV 4790/141).

- completion. This file should include all aircraft and engine-related MAFs.
- TD Compliance File. This file will be maintained by BUNO for a minimum of 6 months from the completed date.
- Miscellaneous File. This file will contain all non-BUNO MAFs and may be separated by Type Equipment code, serial number, or job control number (JCN) at the commands discretion.
- Aircrewman's Flight Equipment File. Each aircrewman has a separate file containing the Aircrew Personal Equipment Record and Aircrew Systems Records. Copy 1 of completed MAFs on all maintenance performed on this equipment is retained for 6 months.
- Q15. What publication contains detailed information on aircraft historical files?
- Q16. How long must aircraft inspection documents be maintained on file?
- Ql7. A completed VIDS/MAF requesting "local manufacture of drip pans" would be maintained in what historical file?

SUBSYSTEM CAPABILITY AND IMPACT REPORTING (SCIR)

LEARNING OBJECTIVE: Describe Subsystem Capability Impact Reporting and its purpose.

Subsystem Capability and Impact Reporting reports show an equipment's mission capability. These reports are generated from Equipment Operational Capability (EOC) codes placed on the VIDS/MAF or in NALCOMIS. SCIR provides factual information, generated at the lowest level of maintenance, as to aircraft or equipment inventory and actual subsystem performance. It provides specific aircraft or equipment mission capability and uniquely defines the categories of full mission capable, partial capable, and not mission capable for a specific type and model aircraft or equipment.

EOC codes are documented when a specific system or subsystem is degraded and impacts the mission capability of that equipment or aircraft. The EOC code is a three-position code. The first position is derived from the *Mission Essential Subsystem Matrices* (MESM), published as an enclosure to OPNAVINST 5442.4. The last two positions are computer generated as determined by the documented

Work Unit Code. Only the first position is entered on the MAF or in NALCOMIS. For more information on EOC codes and levels of aircraft or equipment mission capability, refer to OPNAVINST 5442.4. More information on SCIR reports can be obtained in Vol III of OPNAVINST 4790.2.

- Q18. Equipment Operational Capability (EOC) codes are used on VIDS/MAFs or in NALCOMIS to generate what reports?
- Q19. The Mission Essential Subsystem Matrices (MESM) is used to select what position of the EOC code that is entered on the MAF?
- Q20. How are the second and third positions of the EOC code determined?

AIRCRAFT LOGBOOKS

LEARNING OBJECTIVE: Recognize the different sections of the aircraft logbook and their purpose.

The aircraft logbook is a hard-cover, loose-leaf, ring binder that contains separators and page insert forms. Since the logbook contains loose-leaf forms, it is imperative that the model and bureau number be on both sides of each page in the spaces provided to ensure positive identification when pages are removed or new continuing pages are initiated. Each form is for recording specific information about the aircraft. The maintenance control office keeps the logbook in its spaces, and an AZ normally makes the entries. As a maintenance supervisor, you should be familiar with the information required in the aircraft logbook.

Each aircraft logbook has a record of rework, major repairs, and flight and operational data. Also included in the logbook, in the appropriate sections, is a record of maintenance directives affecting the aircraft, its components, and accessories. Figure 7-2 shows aircraft logbook construction and sequence.

Upon acceptance of a new naval aircraft, the original accepting activity will initiate the logbook and ensure the number of flights and flight hours since new are logged, including the hours flown by the manufacturer. The aircraft logbook is maintained by the reporting or physical custodian. For aircraft supported under contractor maintenance, the onsite support center liaison officer will ensure verification of the logbook or records required.

The following text provides a brief description of the sections in the aircraft logbook. Refer to Logbook Binder (OPNAV 4790/19)

Structural Life Limits Separator (OPNAV 4790/142A) Structural Life Limits (OPNAV 4790/142)

Monthly Flight Summary Separator (OPNAV 4790/21) Monthly Flight Summary (OPNAV 4790/21A)

Inspection Record Separator (OPNAV 4790/22)
Inspection Record (OPNAV 4790/22A)

Repair/Rework Record Separator (OPNAV 4790/23) Repair/Rework Record (OPNAV 4790/23A)

Technical Directives Separator (OPNAV 4790/24)
TDSA TD Lists Nos. 02 and 04 (Aircraft Only)
Technical Directives (OPNAV 4790/24A)

Miscellaneous/History Separator (OPNAV 4790/25) Miscellaneous/History (OPNAV 4790/25A)

Preservation/Depreservation Record Separator (OPNAV 4790/136) Preservation/Depreservation Record (OPNAV 4790.136A)*

Explosive Device Separator (OPNAV 4790/26)*
Installed Explosive Device Record (OPNAV 4790/26A)*

Inventory Record Separator (OPNAV 4790127)
Inventory Record (OPNAV 4790/27A)
Assembly Service Record (OPNAV 4790/106A)*
Equipment History Record (EHR) Card (OPNAV 4790/113)*
Schedule Removal Component Card (OPNAV 4790/28A)*

NOTE

ASR, EHR, and SRC cards are placed in the order they are listed in the PMIC.

ALSS Record Separator (OPNAV 4790/157)*
Parachute Record (OPNAV 4790/101)*
Seat Survival Kit Record (OPNAV 4790/137)*
Aircrew Systems Record (OPNAV 4790/138)*

Supplemental Records Separator (OPNAV 4790/134)*
Aeronautical Equipment Service Record (OPNAV 4790/29)*

*If applicable on aircraft without ejection seats.

Figure 7-2.—Aircraft Logbook construction and sequence.

OPNAVINST 4790.2 for additional information and documentation requirements for each section.

STRUCTURAL LIFE LIMITS, OPNAV 4790/142

This form (fig. 7-3) in the aircraft logbook is generated by the squadron and is used to monitor structural life limited components designated for depot replacement that do not require scheduled removal component (SRC) or assembly service record (ASR) documentation. In addition, this form provides a means for documenting basic life limitations, such as maximum flight hours, catapults, arrestments, and landings. These items must be properly managed to ensure safety and structural integrity throughout the service life of the aircraft. Aircraft structural life limitations are specified in the periodic maintenance information cards (PMICs).

MONTHLY FLIGHT SUMMARY, OPNAV 4790/21A

This form (fig. 7-4) is designed to permit the monthly compilation of significant flight operational

data throughout the service life of an aircraft. Reporting custodians are required to log all flight hours monthly in chronological order.

INSPECTION RECORD, OPNAV 4790/22A

This form (fig. 7-5) is used in the logbook and the Aeronautical Equipment Service Record (AESR). It provides a means of recording all scheduled and conditional inspections performed on an aircraft during each period and on equipment for which an AESR is required.

Accurate inspection records prevent instances of wasted effort because of improper entries by aircraft and equipment custodians. Questionable or incomplete records leave receiving activities no alternative but to assume that previous inspection requirements were not completed.

REPAIR/REWORK RECORD, OPNAV 4790/23A

The Repair/Rework Record (fig. 7-6) is used in the logbook and the AESR. It contains a complete record

S	TRUCTURAL LIFE LI	MITS	1.TYPE/MODEL/SERIES SH-3H	2. BUNO/SERIAL P 148049	lumder.
		SECTI	ON I - BASIC LIFE LIMITS		
. REFERENCE	NAVAIRINST 13130.1	A	4. REFERENCE DATE 01 JUL 86	5. PAGE INITIATION 12 APR 94	ON DATE
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NOTES:					
			 		
		SECTION	II - SERVICE LIFE LIMITS		
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		a COMPUANCE	9. CATAPULT	A COMPLIANCE	
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2000 11100	5.6112-23009 5.6110-26045-7 5.6110-26020-2	a COMPUANCE	9. CATAPULT	A COMPLIANCE	
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Figure 7-3.—Structural Life Limits (OPNAV 4790/142).

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Figure 7-4.—Monthly Flight Summary (OPNAV 1790/21A).

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PHASE B/7098.3	NA01-230HLH-6-	4 205	EP 94 22	SEP 94	HS-5	LT. A. WINTERS
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Figure 7-5.—Inspection Record (OPNAV 4790/22A).

of all repair, reconditioning, scheduled depot-level maintenance (SDLM), conversion, modification, modernization, and aircraft service period adjustment (ASPA) inspections performed on the aircraft. The logbook always accompanies the aircraft when it is inducted into a rework facility, even though there is no change in the reporting custodian.

TECHNICAL DIRECTIVES, OPNAV 4790/24A

OPNAV 4790/24A (fig. 7-7) is used in both the aircraft logbook and the AESR, and is used to document the technical directives (TDs) affecting the airframe structure and its integral parts. Separate pages are required to record each type of TD on equipment. TDs concerning equipment other than engines present no special problems in recording because the quantity of these TDs is relatively small. Power plant changes (PPCs) and power plant bulletins (PPBs), however, are issued in greater numbers and require careful screening to ensure the AESR reflects the actual configuration of the equipment. Technical directive

requirements lists require different recordkeeping procedures.

The Naval Aviation Logistics Center (NAVAV-NLOGCEN) prepares technical directive requirements lists that include list No. 02, Directives Applicable to a Specific Bureau/Serial Number (but not incorporated), and list No. 04, Directives Applicable to a Specific Bureau/Serial Number (and reported as incorporated). The NAVAVNLOGCEN distributes these lists to reporting custodians and functional wings according to NAVAIRINST 13050.3 (series).

When you receive initial lists Nos. 02 and 04, remove OPNAV Form 4790/24A. After verification against the new lists Nos. 02 and 04, retain or destroy the old form as directed. Insert list No. 02 and list No. 04 in the TD section of the aircraft logbook. List No. 02 precedes list No. 04.

When a new TD is received, add it to list No. 02. As the work center complies with each TD, annotate list No. 02 and add the information to list No. 04. This provides a complete, up-to-date configuration listing of the aircraft at any given time.

AIRCRAFT MODEL/	EQUIPMENT NAME		2. TYPE/MODEL/SE	ues.		3. BUNG OR 5	ERIAL NUMBER		
DATE INDUCTED	S. DATE COMPLETED	6. DESCRIP	TION OF WORK	7.	REFERENCE	1 4372	ACTIVITY	9.	SIGNATURE
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Figure 7-6.—Repair/Rework Record (OPNAV 4790/23A).

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	INICAL D	05 (71)/5	(DENT)E	CATION			1.	7.	B. COMPLIA	WCE	9.
a. BASIC	b. INT	c. REV	d. AM	e. PT	f, KIT	g. PRI	STATUS	TITLE / REMARKS	BY (Activity)	b. DATE	SIGNATURE
306					00	U	INC	FUEL SYSTEM INSPECTION	HS-5	12 JUL 94	/S/ S. STEVENS//
450					ļ		NA_	PREVIOUS MODELS ONLY	HS-5		LT. M. DAY
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Figure 7-7.—Technical Directives (OPNAV 4790/24A).

Record interim TDs on the same sheet as formal TDs, and identify by an "I" preceding the TD number.

MISCELLANEOUS/HISTORY, OPNAV 4790/25A

Operating activities record significant information on OPNAV 4790/25A (fig. 7-8) that affects the aircraft for which no other space is provided in the logbook. Such information includes abnormal flight characteristics, peculiar undetermined troubles, damage to aircraft, major component changes not logged elsewhere in the logbook (struts, control surfaces, and tail sections), historical data, preservation/depreservation data, aircraft compass calibration readings, and authorization for service period extensions.

When aircraft are exposed to large quantities of salt water, fire-extinguishing agents, or other corrosive medium, you should make an entry on this form. Include a description of the decontamination accomplished and approximate time between exposure and completion of decontamination. When adding dye directly to the aircraft fuel tanks to

determine the location of a leak, note it on this form. These entries are a permanent part of the logbook. This section may also be used to record serial number information concerning research and development and bailment aircraft; for example, special modifications and special testing. The date of occurrence is placed in the date column. Also, log hydraulic contamination in this section whenever the contamination level exceeds Navy Standard Class Five contamination.

This form is also used in the AESR to record pertinent information that affects equipment for which no other space is provided. Information which may need to be documented includes special test data, significant damage/repair, Joint Oil Analysis Program (JOAP) results, exposure to fire-extinguishing agents or salt water, etc.

PRESERVATION/DEPRESERVATION RECORD, OPNAV 4790/136A

This form (fig. 7-9) is used in the aircraft logbook, AESR, or module service record (MSR). An entry is required any time preservation, represervation, or

	MISCELLANEOU:	S/HISTORY
SH-3H	NUMBERT NAME EQUIPMENT MODELTYPE	BUNO ON SERIAL NO. 152039
DATE	R.E.	MARKS
28 AUG 94	EFFECTIVE THIS DATE, PHASE C INDUCTION	HOURS RESCHEDULED FROM 8025.5 TO 8010.5 AS
	AUTHORIZED BY OPNAVINST 4790.2F. NEX	PHASE DUE IS PHASE D AT 8110.5 HOURS.
		LCDR. W. E. HAVENS, HS-5
·		
		_
OPPLAY FORM 4790/25A (8	-69) SN 0107-770-3505	AMPMA

Figure 7-8.—Miscellaneous/History (OPNAV 4790/25A).

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Figure 7-9.—Preservation/Depreservation Record (OPNAV 4790/136A).

depreservation is performed on the aircraft or its equipment.

For installed equipment, entries are required in the AESR or MSR if the applicable preservation MRCs or the NA 15-01-500, *Preservation of Naval Aircraft*, specify a preservation requirement. No entry is required if the equipment is not preserved as part of an aircraft preservation action.

Entries are required in the AESR or MSR of uninstalled equipment if the applicable maintenance manual specifies a preservation requirement. For example, an aircraft engine made ready for installation (RFI) and not immediately installed on an aircraft would have to be preserved, and an entry would be made in the AESR.

INSTALLED EXPLOSIVE DEVICE RECORD, OPNAV 4790/26A

This section of the aircraft logbook contains a record of all explosive devices installed in the aircraft and/or major assemblies; for example, initiators and canopy releases. Explosive devices installed in major assemblies/equipment (such as ejection seats and

in-flight refueling stores) are recorded in the Installed Explosive Device Form of the appropriate AESR.

Explosive devices installed in personnel parachutes are recorded on the Parachute Record (OPNAV 47901101) and in other safety and survival equipment on the Seat Survival Kit Record (OPNAV 4790/137) or Aircrew Systems Record (OPNAV 4790/138). All other explosive devices should be recorded on the Installed Explosive Device Record of the aircraft logbook (fig. 7-10).

INVENTORY RECORD, OPNAV 4790/27A

This form (fig. 7-11) is used to maintain a current inventory of all equipment, components, and assemblies requiring an MSR, ASR, EHR, or SRC card as directed by the Periodic Maintenance Information Cards (NAVAIR 01-XXX-6) for the aircraft. Aircraft engines, auxiliary power units, ejection seats, and other major components requiring an AESR are not to be listed in this section, or any other part of the aircraft logbook except the AESR, when it becomes part of the logbook upon transfer of the aircraft.

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Figure 7-10.—Installed Explosive Device Record (OPNAV 4790/26A).

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Figure 7-11.—Inventory Record (OPNAV 4790/27A).

Module Service Records (MSRs), Assembly Service Records (ASRs), Equipment History Records (EHRs), and Scheduled Removal Component Cards (SRCs) are discussed later in the text.

AVIATION LIFE SUPPORT SYSTEM (ALSS) RECORDS

This section of the aircraft logbook contains a file of all aircraft-installed ALSS records, excluding aircraft equipped with ejection seats. When an aircraft has ejection seats, the records are inserted into the appropriate ejection seat AESR. ALSS records include the forms and records discussed in the following paragraphs.

The Parachute Record, OPNAV 4790/101, (fig. 7-12) provides the current configuration and inspection record for a parachute assembly, as well as its components throughout its service life. The form is a two-part, no-carbon-required form. The hardback copy is filed in the logbook of the aircraft in which the parachute is installed. The original copy of the record is kept in a permanent file as designated by the AMO.

The Seat Survival Kit Record, OPNAV 4790/137, (fig. 7-13) provides configuration and inspection information for the seat survival kit and its components. This record is a two-part, no-carbon-required form. The hardback copy is filed in the aircraft logbook. The original copy is kept in a permanent file as designated by the AMO.

The Aircrew Systems Record, OPNAV 4790/138, (fig. 7-14) provides a continuous configuration and inspection record of ALSS components, kits, and assemblies. This record is a single copy, two-sided form, which is filed in the logbook of the aircraft for which the ALSS component, kit, or assembly is installed. For personnel-mounted equipment or other equipment that is not aircraft mounted, the record will be maintained as directed by the AMO.

When any of the above listed ALSS components, kits, or assemblies are involved in an aircraft mishap, the appropriate records are to be forwarded as required by OPNAVINST 3750.6 and NAVAIR 13-1-13 manuals for investigation.

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Figure 7-12.—Parachute Record (OPNAV 4790/101).

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Figure 7-13.—Seat Survival Kit Record (OPNAV 4790/137).

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Figure 7-14.—Aircrew Systems Record (OPNAV 4790/138).

- Q21. What information MUST be transcribed on both sides of each logbook page to ensure positive identification when pages are removed?
- Q22. Who is responsible for maintaining aircraft logbooks?
- Q23. Where can information be obtained on a specific aircrafts structural life limitations?
- Q24. On what OPNAV record in the logbook would an overweight landing inspection be recorded?
- Q25. On what OPNAV record in the logbook would an aircraft service period adjustment (ASPA) inspection be recorded?
- Q26. Where and how are interim technical directives (TDs) recorded?
- Q27. What is the purpose of the Miscellaneous/History Record?

- Q28. When is an entry not required on OPNAV 4790/136A for preservation of installed equipment?
- Q29. When aviation life support system's components, kits, or assemblies are involved in an aircraft mishap, what must be done with the associated records?

AERONAUTICAL EQUIPMENT SERVICE RECORD, OPNAV 4790/29

LEARNING OBJECTIVE: Recognize the different parts of the Aeronautical Equipment Service Record and their purpose.

The AESR is a loose-leaf record. It may be inserted in the aircraft logbook or it may stand alone. The AESR is maintained similarly to the aircraft logbook, and the same OPNAV forms are used in it. The activity that has custody of the particular

equipment maintains this record. The following is a list of the currently required applications of the AESR to specific equipment:

- Aircraft power plant
- Airborne gun pods (for example, GPU-2/A, ADEN)
- Low-level escape system
- Propeller assembly
- In-flight refueling store or package
- Auxiliary, power unit (APU)
- AN/ALQ-99 pod
- Aeronautical expeditionary airfield M-11, M-22, M-23, and V-1, V-7, and L-series lighting systems
- Gas turbine power plant (7LM 1500 PB-104)
- MK-105 magnetic minesweeping gear

- SE gas turbine engines (listed in NAV-AIRNOTE 4700)
- Engine test cell or stand

The AESR (fig. 7-15) is a permanent part of the aircraft logbook for equipments installed at the time of aircraft transfer.

Module Service Record (MSR) (OPNAV 4790/135)

Modular engine design allows intermediate level facilities to readily remove and replace interchangeable with ready-for-issue (RFI) spares. The MSR (fig. 7-16) provides the method for recording the maintenance data for these modules and their life limited assemblies and components. This MSR will be attached to and accompany the component to its final destination.

AERONAUTICAL EQUIPMENT SERVICE RECORD

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DEPARTMENT OF THE NAVY, CHIEF OF NAVAL OPERATIONS OPNAV 4790/29 (Rev. 1-84) S/N 0107-LA-047-9145

Figure 7-15.—Aeronautical Equipment Service Record (OPNAV 4790/29).

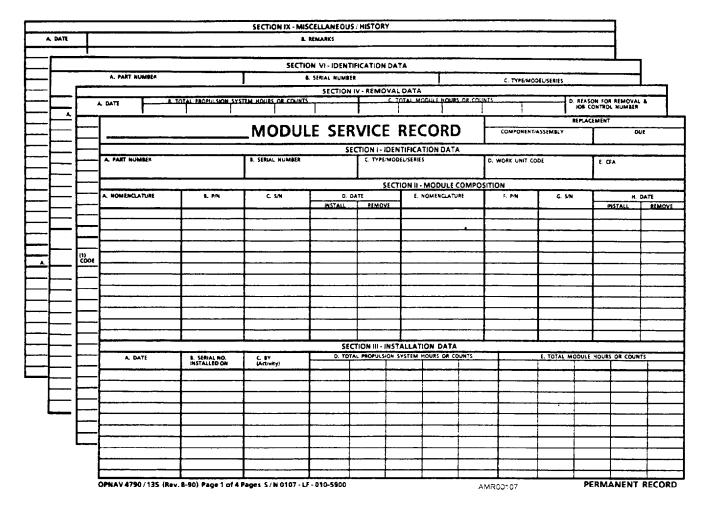


Figure 7-16.—Module Service Record (OPNAV 4790/135).

Once the module is installed in a particular propulsion system, this record is maintained concurrently with, and becomes part of, the propulsion system AESR.

Assembly Service Record (ASR) (OPNAV 4790/106A)

The ASR (fig. 7-17) is a two page form that provides data tracking on assemblies. Items that require an ASR are items with rework or overhaul life limits and subassemblies designated to be removed by any organization and discarded.

Equipment History Record (EHR) Card (OPNAV 4790/113)

The EHR card (fig. 7-18) is a two page form used to record maintenance, inspections, TD compliance, and usage data on maintenance engineering cognizant field activity (MECFA) designated components, quick

engine change kits (QECKs), and armament equipment. An individual card for each EHR component is maintained as part of the aircraft logbook, AESR, or MSR while the component is installed in or on the aircraft. When the component is removed, the EHR accompanies the component.

Scheduled Removal Component (SRC) Card (OPNAV 4790/28A)

The SRC card (fig. 7-19) is used to record maintenance history data of aeronautical components that are (through engineering analysis) determined to be life limited. The SRC card is used to record maintenance history, installation, and usage data on designated SRCs. An individual card for each SRC item is maintained as part of the logbook, AESR, MSR, or equipment as long as that item is installed. When the item/component is removed from the aircraft, the SRC card accompanies the component.

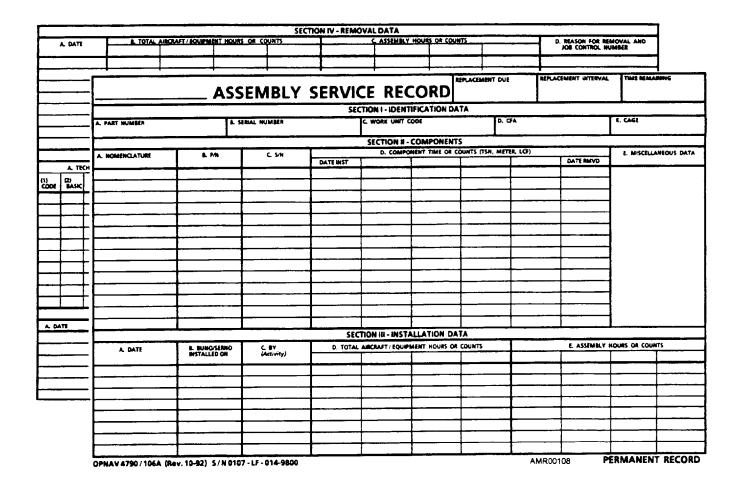


Figure 7-17.—Assembly Service Record (OPNAV 4790/106A).

NOTE: For more detailed information on documentation procedures for the AESR, MSR, ASR, EHR, and SRC, refer to OPNAVINST 4790.2.

- Q30. Once an engine module is installed in a particular propulsion system, what becomes of the Module Service Record (MSR)?
- Q31. In what section of the Assembly Service Record is the removal data documented?
- Q32. What record is used to document the maintenance history data of an aeronautical component that has been determined to be life limited?

NAVAL FLIGHT RECORD SUBSYSTEM (NAVFLIRS)

LEARNING OBJECTIVE: Describe the purpose of the Naval Flight Record Subsystem.

The NAVFLIRS provides a standardized Department of the Navy flight activity data collection system. The NAVFLIR form (OPNAV 3710/4) consists of an original and two copies. All three copies contain identical information, which is outlined in OPNAVINST 3710.7.

A NAVFLIRS is required to be completed for each attempt at flight and is certified for completeness and accuracy by the aircraft or mission commander. Once the form is completed, maintenance control screens it for accuracy of aircraft information (BUNO, flight time, engine operating time) and transcribes applicable data in the aircraft logbook. Operations personnel will screen it and transcribe information in the aviators logbooks.

Enhanced Comprehensive Asset Management System (ECAMS) sites will forward copies 1 and 3 to the ECAMS operator for entry of the required information for ECAMS reports and tracking

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Figure 7-18.—Equipment History Record (EHR) card, (OPNAV 4790/113A).

purposes. Then, the ECAMS operator forwards the copies to the analyst. Copy 3 is filed in maintenance control, and copy 1 is sent to the data services facility (DSF) for data entry and the production of various NAVFLIRS reports. Ensuring the validity of NAVFLIRS data requires complete coordination between the analyst, maintenance control, and the operations department.

Q33. What system was devised to provide standardized Department of the Navy flight activity data collection information?

PRODUCTION CONTROL

LEARNING OBJECTIVE: Identify the responsibilities of production control.

Production control, like maintenance control of the organizational maintenance department, is the nucleus of the AIMD. It is responsible to the maintenance material control officer for the overall AIMD production effort. Production control has the following responsibilities.

- Scheduling the workload, using procedures and priorities established by the maintenance material control officer.
- Coordinating and controlling the production effort to ensure efficient movement of components through the activity.
- Maintaining the required files and records to support the productive effort.
- Keeping the maintenance material control officer informed of overall workload status.
- Maintaining positive control of all accountable material.
- Ensuring maximum use of personnel and material resources.
- Maintaining liaison with the supply department and the various production work centers.

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Figure 7-19.—Scheduled Removal Component (SRC) card (OPSAV 4790/28A).

- Maintaining VIDS display boards and verify that the various work center VIDS display boards are in parity. If operating under NALCOMIS. ensure work centers are updating NALCOMIS as required.
- Ensuring packaging, preservation, and represervation is done according to applicable technical manuals.

It is important to remember that production control is the nerve center of the intermediate maintenance activity (IMA). The IMAs primary purpose is to support the squadrons and to help the supply department support the squadrons. When a local squadron is in need of a repairable aircraft component, its use of a replacement part from supply directly affects the IMA. The bad part removed from the aircraft (retrograde component) will eventually show up in the aeronautical material screening unit (AMSU), and if they have the capability to repair it, that component will be inducted in the IMA.

The quantity of like items in the supply department determines the priority set on the inducted item. Once the IMA has the component, production control tracks it and manages the priority as it goes through the repair cycle.

Q31. In the intermediate maintenance activity (IMA), what work center is responsible for maintaining positive control of all accountable material?

SUPPLY PRIORITIES/PROJECT CODE ASSIGNMENT

When informed by the repairing work center of repair parts requirements. production control assigns the supply priority and project code.

As discussed in chapter 3, all Navy activities are assigned a force activity designator (FAD) for determining priorities for material support based on their mission. The FAD is correlated with an urgency-of-need requirement to determine the priority assigned to requisitions. For example, a FAD

II activity can submit priority 2, 5, and 12 requisitions, depending on the urgency of requirement as related to mission readiness. A FAD III activity would submit priority 3, 6, and 13 requisitions for corresponding requirements.

Project codes are assigned to identify requisitions and related documents applicable to specific projects or programs and are mandatory entries on all requisitions.

Project/Priority codes are discussed in more detail in chapter 3 and in OPNAVINST 4790.2.

AWAITING PARTS VALIDATION

LEARNING OBJECTIVE: Recognize the purpose for performing awaiting parts validations.

Validation of AWP items, using the AWP list provided by the aviation support division (ASD), is performed jointly with the AWP unit in supply at least weekly. AWP validation ensures all parts on order by a particular command are still required and all required parts are still on order. This validation also points out possible cannibalization actions, which can reduce the number of AWP components.

Q35. What action is taken at least weekly to ensure all parts on order are still required and all required parts are still on order?

WORKLOAD PRIORITY ASSIGNMENT

LEARNING OBJECTIVE: Identify the different priorities assigned to I-level maintenance workloads.

Production control, working with the component control section (CCS) and the aeronautical material screening unit (AMSU) of the supply department, will set workload priorities based on the following:

<u>Priority 1</u>. Support of non-mission capable (NMC) or partial-mission capable (PMC) aircraft; NMCS or PMCS items, based on a valid outstanding requisition held by supply; expeditious repair (EXREP); or work requests causing NMC or PMS conditions on an aircraft will be assigned priority 1. Priority 1 is also assigned to activities within 30 days of deployment.

<u>Priority 2</u>. Repair of critical local repair cycle assets (LRCAs) and SE. This priority is also assigned to O-level maintenance work stoppage requirements.

<u>Priority 3</u>. Repair of non-critical LRCAs and SE and <u>repair or manufacture of material for non-fixed allowance stock.</u>

<u>Priority 4</u>. Processing of salvaged material and nonaeronautical work.

These priorities may be adjusted by the IMA maintenance and supply officers as necessary to meet local support requirements and operation conditions.

Q36. Production control works with what other work centers in the supply department to set workload priorities?

EQUIPMENT STATUS REPORTS

The successful operation of an IMA from production control depends on knowledge. As mentioned before, production control is the nerve center of the IMA. If a supported activity needs anything in the way of support from the I-level activity, it will contact production control. For production control to have its finger on the pulse of the entire department, it needs to be continuously updated on equipment status. From the status of support equipment to avionics test benches, the production control chief MUST know at a glance what assets he has available to work with.

Equipment status reports normally provide this information. These status reports are normally furnished to production control at the beginning of each work day and sometimes at the beginning of each shift.

Equipment status reports provide important information, such as how many NCPP-105 air start units are on board, and how many of them are up (fully operational) or how many are down, what maintenance is required to make them ready for use, and when they are anticipated to be ready for use. Almost every division in the IMA provides these reports to the production control officer, with information pertinent to the successful operation of an IMA.

SUMMARY

This chapter touched only briefly on the responsibilities of maintenance and production control. It is by no means an all inclusive recipe book for successful operation of either work center. Both maintenance control at the O-level and production control at the I-level are very important and busy management offices. Communication and teamwork are key factors in managing a successful work center.

ANSWERS TO REVIEW QUESTIONS

- A1. The efficient attainment of objectives.
- A2. Actions taken to retain material in a serviceable condition or to restore it to serviceability.
- A3. Actions taken to retain or restore material or equipment to a serviceable condition with a minimum expenditure of resources.
- A4. Maintenance control.
- A5. Maintenance control.
- A6 Maintenance control.
- A7. Maintenance control.
- A8. Maintenance control.
- A9. It allows all the supervisors within your department or division to brief the maintenance chief on the status of equipment, components, or aircraft that currently have ongoing work or are scheduled to have maintenance performed.
- A10. Aircraft Material Readiness Reporting (AMRR), COMNAVAIRLANT/ COMNAVAIRPAC INSTRUCTION 5442.5D.
- A11. At least 10 flights or until the completion of the next like inspection.
- A12. The aircraft maintenance officer (AMO) or his designated representative.
- A13. Aircraft Inspection and Acceptance Record.
- A14. Prior to the first flight of the day.
- A15. OPNAVINST 4790.2, Vol III.
- A16. One inspection cycle or 6 months, whichever is greater.
- A17. Miscellaneous file.
- A18. SCIR reports.
- A19. The first position of the EOC code.
- A20. They are computer generated as determined by the documented Work Unit Code (WUC).
- A21. Aircraft model and bureau number.
- A22. Reporting or physical custodians of all naval aircraft.
- A23. The periodic maintenance information cards (PMCs) for that specific aircraft.
- A24. Inspection Record OPNAV 4790/22A.
- A25. Repair/Rework Record, OPNAV 4790/23A.
- A26. Interim TDs are recorded on the same sheet as formal TDs and identified by an "I" preceding the TD number.
- A27. It provides a means of recording significant information that affects the aircraft or equipment for which no other space is provided in the logbook.
- A28. If the equipment is not preserved as part of an aircraft preservation action.

- A29. The appropriate records are to be forwarded as required by OPNAVINST 3750.6 and NAVAIR 13-1-13 manuals for investigation.
- A30. It is maintained concurrently with and becomes part of the Aeronautical Equipment Service Record (AESR).
- A31. Section IV.
- A32. The Scheduled Removal Component (SRC) Card OPNAV 4790/28A.
- A33. Naval Flight Record Subsystem (NAVFLIRS).
- A34. Production control.
- A35. Awaiting parts (AWP) validation.
- A36. Component control section (CCS) and the aeronautical material screening unit (AMSU).